PROFITABILITY RATIO ANALYSIS BEFORE AND DURING COVID-19: CASE STUDY IN PT JAPFA COMFEED INDONESIA

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ABSTRACT

After the COVID-19 outbreaks, many companies and industries have faced challenges from an economic point of view. This pandemic situation has slowed down some companies' production processes or even stopped the whole production because of the regulations from the government and the limitation of local communities' activities. As a result, many companies experienced a decrease in income. In Indonesia alone, its economy had fallen 5.32% in the second quarter of 2020. However, some companies experienced an increase in income, such as food and beverage companies. This study aimed to analyze the difference in the financial performance of PT. Japfa Comfeed Indonesia before and during the COVID-19 pandemic which is between the years 2019 to 2020. This study focused on profitability ratios that include return on assets, return on invested capital, return on equity, gross margin percentage, and profit margin as a part of the financial performance of the company. The data was collected from the company's collection of consolidated financial statements on its website. The research method used in this study is Paired Sample T-Test, to know if there are significant differences in the ability of the company to generate income before and during the COVID-19 pandemic. This study concludes that there are no significant differences between the profitability of PT Japfa Comfeed Indonesia before and during COVID-19. Promoting companies to view the effect of the pandemic and develop strategies to reduce the financial burden it may result is needed to maintain companies' profitability.

Key words: Agri-food, PT Japfa Comfeed Indonesia, financial performance, financial ratios, COVID-19.

INTRODUCTION

COVID-19 is a worldwide health issue that began on December 31, 2019, in Wuhan, Hubei Province, China. COVID-19 was declared a public health emergency of international concern by the World Health Organization on January 30, 2020 (World Health Organization, 2020). As a result of the emergency, each country has established its quarantine policy and regulation, resulting in a reduction in population mobility (FT Visual & Data Journalism Team, 2021). These regulations, as well as a spike in COVID-19 cases, have hampered and placed pressure on global economic growth, since many companies and businesses have seen a drop in revenues and revenue (as indicated in Table 1), significantly reducing people's purchasing power.

Table 1. Changes of Revenue and Profits in Q1 2020 compared to Q1 2019 from different business sectors

Industries	Change in Revenues	Change in Results (EBIT/EBITDA)
Chemicals	0%	-16%
Consumer Goods	-6%	-52%
Mining/Commodities	-10%	-166%
Real Estate	10%	11%
Services	-9%	-38%
Telecommunication	0%	2%
Life Science	8%	30%
Engineering & Construction	-5%	-19%
Transport & Logistics	-3%	-36%
Automobile	-5%	-54%

Energy	--	--
Travel & Leisure	-13%	-496%

Source: (Köster & Igoe, 2020)

Many areas of the global economy have been affected by the pandemic, including health care, commodities, transportation, and the food and beverage industry (Donthu & Gustafsson, 2020). Foods and beverages are one of life's necessities, and they are heavily dependent on agronomy and agriculture. However, the agri-food sector and businesses have been disrupted as a result of COVID-19 pandemic policies and regulations. In Indonesia, PT. Japfa Comfeed is one of the biggest agri-food companies and according to the financial data provided by the company, it can be seen that there is a change in the financial performance of PT. Japfa Comfeed due to the declining number of sales. It has also been said in the survey *Permintaan Penjelasan Terkait Dampak Pandemik COVID-19 Periode Juni 2020* that since the COVID-19 pandemic, the operation was restricted for around 1-3 months and predicted to have a declining sales of less than 25% in 2020 (Indonesia Stock Exchange, 2020). However, based on the news bulletin on its website, PT. Japfa Comfeed still tried to find ways to keep the business in line by still performing exports and maintaining the food supply chain (Japfa, 2020).

In this study, the difference in the financial performance of PT. Japfa Comfeed Indonesia before and during the COVID-19 pandemic will be analyzed to know the ability of the company to generate profit before and during the pandemic which will give an insight into the company's future financial plan. The financial performance that will be analyzed is profitability ratios that include return on assets, return on invested capital, return on equity, gross margin percentage, and profit margin. This research is also expected to provide relevant information for investors when deciding whether or not to invest during the COVID-19 pandemic.

THEORETICAL FRAMEWORK

Measuring The Financial Performance of a Company

A company's financial performance is an overall assessment of how well it operates in numerous areas, including assets, liabilities, equity, expenses, revenue, and overall profitability. It is typically used to assess a firm's overall performance in comparison to other benchmarks, as well as to assist external investors in determining whether the firm is worth investing in (Pandian & Narendran, 2015). Financial statements, which are commonly presented and compiled in yearly, semester, or trimester reports, can show a company's financial performance.

Financial Ratio

A financial ratio is a metric for assessing a company's overall financial health. It also provides information on the company's financial accomplishments, which may be used in future financial planning. Liquidity ratios, profitability ratios, efficiency ratios, solvency ratios, coverage ratios, and market value ratios are the six types of financial ratios. However, in this study, we will only focus on profitability ratios.

Profitability Ratio

A profitability ratio is commonly used to analyze the ability of a company to generate profit during a specific time. According to Yusuf & Surjaatatmadja (2018), profitability is also important in terms of maintaining the company's long-term survival since it indicates whether the company has good prospects in the future. The profitability ratio can be divided into two groups: margin ratios and return ratios. Margin ratios are usually used to analyze how effectively a company transforms sales revenue into profits, while return ratios measure whether a company generates a profit for its owners or shareholders (Black, 2020).

Return on Assets

According to Коршунова *et al*. (2019), return on assets (ROA) is the ratio of the net income to total assets which also used to measure the overall effectiveness of management in generating profits with its available assets. The formula for ROA is shown below:

$$ROA = \frac{Net\ Income}{Total\ Assets} \text{x } 100\%$$

If the ROA rises, it indicates that the company is performing better than previously, which may benefit the business's shareholders through larger capital gains or dividends (Atidhira & Yustina, 2017). It will entice investors to put money into the company.

Return on Invested Capital

Return on invested capital (ROIC) is a metric that may be used to assess a company's profitability as well as reveal the origins of its competitive advantages (Mauboussin & Callahan, 2014; Baldwin, 2016). The return on investment (ROI) is computed as the ratio of net operating profit to total investment, as stated in the formula below:

$$ROIC = \frac{Net\ Operating\ Profit\ After\ Tax\ (NOPAT)}{Invested\ Capital\ (IC)} \text{x } 100\%$$

According to Zamfir *et al.* (2016), the value of ROIC can be either positive or negative. A positive ROIC indicates a profitable project, while the negative ROIC indicates otherwise. Therefore, the bigger the value of ROIC, the better the investment would be.

Return on Equity

Return on Equity (ROE) is a financial metric that reveals how much stockholders profit from the money they put into the company. When contrasted to ROIC, it represents the total return on all capital invested in an asset, whereas ROE solely evaluates the equity component (Damodaran, 2007). The formula for ROE is shown below:

$$ROE = \frac{Net\ Income}{Shareholder's\ Equity} \text{x } 100\%$$

According to Коршунова *et al.* (2019), ROE is used to measure the ability of the company to generate profits for its shareholders, both common and preferred stocks, which means it affects stock prices; when the value of ROE is high, the stock prices also tend to be high.

Gross Margin Percentage

Gross Margin Percentage is a metric for determining a company's profitability that expresses the connection between gross profit and net sales as a percentage (Tulsian, 2014). It displays how much money a company has left over after paying all of its direct costs for producing a product or providing services. The formula of gross margin percentage can be written as:

$$Gross\ Margin\ Percentage = ((Net\ Sales - COGS)\ x\ \frac{100}{Net\ Sales})\text{x}100\%$$

Net Profit Margin

The profitability of a company's overall sales after all expenses and income taxes is known as the net profit margin (Khamidah *et al*., 2016). One of the most crucial indications of a company's overall financial health is its cash flow. The net profit margin formula is as follows:

$$Net\ Profit\ Margin = \frac{Net\ Income}{Revenue} \text{x } 100\%$$

RESEARCH HYPOTHESES

In the profitability ratios analysis, there are five hypotheses based on each variable that differs considerably before and during the COVID-19 pandemic. In the case of H0, it reveals that the profitability ratio has not changed significantly since the COVID-19 pandemic.

H_0: The COVID-19 pandemic has no significant difference in the PT Japfa Comfeed Indonesia's profitability performance.
H_1: The COVID-19 pandemic has a significant difference in the PT Japfa Comfeed Indonesia's profitability performance, measured by its return on assets.
H_2: The COVID-19 pandemic has a significant difference in the PT Japfa Comfeed Indonesia's profitability performance, measured by its return on invested capital.
H_3: The COVID-19 pandemic has a significant difference in the PT Japfa Comfeed Indonesia's profitability performance, measured by its return on equity.
H_4: The COVID-19 pandemic has a significant difference in the PT Japfa Comfeed Indonesia's profitability performance, measured by its gross margin percentage.
H_5: The COVID-19 pandemic has a significant difference in the PT Japfa Comfeed Indonesia's profitability performance, measured by its net profit margin.

METHODOLOGY

The quantitative method was utilized in this investigation, which was based on secondary data provided by the company. The financial report of PT. Japfa Comfeed Indonesia, Tbk from the first quarter of 2019 to the fourth quarter of 2020 was used as secondary data. Profitability measures such as return on assets, return on invested capital, return on equity, gross margin percentage, and profit margin were the subject of this research. Researchers used the previously indicated literature review to calculate such ratios. Researchers employed the Paired Sample T-Test method to see if there were any significant differences in the company's ability to generate income before and during the COVID-19 outbreak.

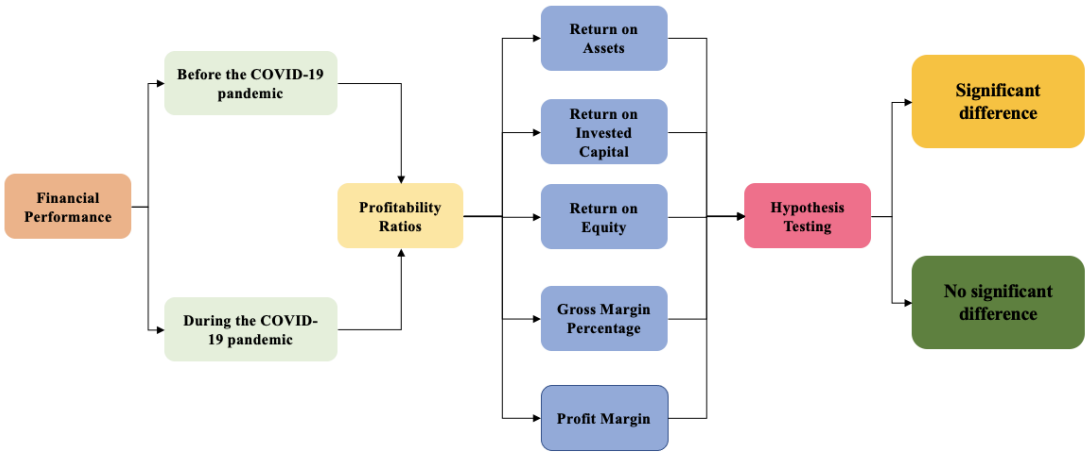

Figure 1. Research Model

RESULTS AND DISCUSSION

This section summarizes the findings of PT Japfa Comfeed Indonesia's profitability ratios analysis. On March 16th, 2020, data was gathered from the company's website. The researcher received eight sets of quarterly consolidated financial statements, which he subsequently processed.

Descriptive Analysis

Table 2. Financial Ratios Descriptive Statistics

	N	Min	Max	Mean	Std. Deviation
ROA Before COVID	4	1.35	7.48	4.25	2.53
ROA During COVID	4	0.65	4.71	1.95	1.85
ROIC Before COVID	4	1.97	10.38	6.21	3.47
ROIC During COVID	4	0.92	6.13	2.60	2.38
ROE Before COVID	4	3.13	16.46	9.82	5.49
ROE During COVID	4	1.59	10.71	4.53	4.16
GMP Before COVID	4	16.63	19.39	17.89	1.18
GMP During COVID	4	16.41	20.10	17.67	1.69
PM Before COVID	4	3.81	5.13	4.57	0.65
PM During COVID	4	1.07	4.03	2.40	1.48

The descriptions of the results presented in this chapter include the results of univariate and paired sample analysis. The univariate analysis described in this section consists of the return on assets, return on invested capital, return on equity, gross margin percentage, and profit margin. This section presents the results of the paired sample analysis by describing the difference between the variables, namely before COVID-19 and during COVID-19.

Return on Assets

According to Table 2, PT Japfa Comfeed Indonesia had an average return on assets of 4.25 with a standard deviation of 2.53 before COVID-19 and an average of 1.95 with a standard deviation of 1.85 during COVID-19, respectively. The Shapiro-Wilk test was used to determine the normality of the return on assets variables, yielding p-values of 0.925 and 0.055 ($p > 0.05$), which means the data were normally distributed. While based on Figure 2, it was seen that the value of return on assets in 2020 was lower than in 2019. That means the COVID-19 pandemic was negatively impacting the return on assets of PT Japfa Comfeed Indonesia.

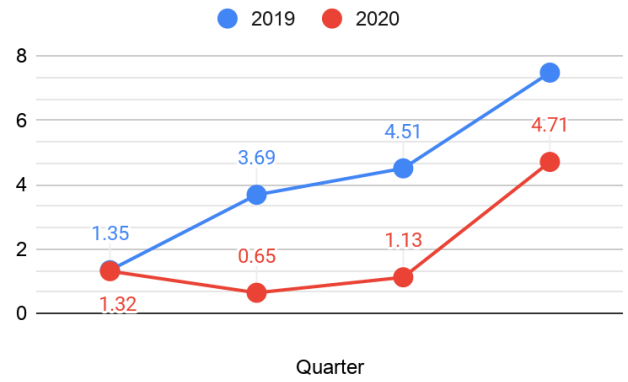

Figure 2. Return on Assets Before and During COVID-19

Return on Invested Capital

Based on Table 2, it was found that the return on invested capital of PT Japfa Comfeed Indonesia before and during COVID-19 had an average of 6.21 with a standard deviation of 3.47 and an average of 2.60 with a standard deviation of 2.38, respectively. Researchers conducted a normality test on these variables using the Shapiro-Wilk test, obtained p-value = 0.96 and 0.06 (p> 0.05), which means the data were normally distributed. Figure 3 shows that the value of return on invested capital decreased in 2020 compared to 2019. It means that the COVID-19 pandemic had a negative impact on PT Japfa Comfeed Indonesia's return on invested capital.

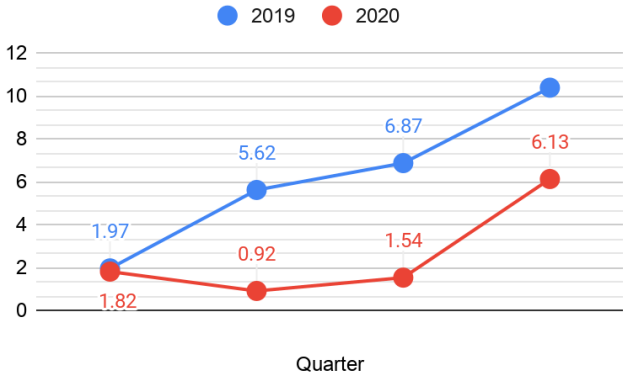

Figure 3. Return on Invested Capital Before and During COVID-19

Return on Equity

Based on Table 2, it was found that the return on equity of PT Japfa Comfeed Indonesia before and during COVID-19 had an average of 9.82 with a standard deviation of 5.49 and an average of 4.53 with a standard deviation of 4.16, respectively. Researchers tested the normality of the return on equity variables using the Shapiro-Wilk test, obtained p-value = 0.95 and 0.06 (p> 0.05), which means the data were normally distributed. While based on Figure 4, it was seen that the value of return on equity in 2020 was lower than in 2019. That means the COVID-19 pandemic was negatively impacting the return on equity of PT Japfa Comfeed Indonesia.

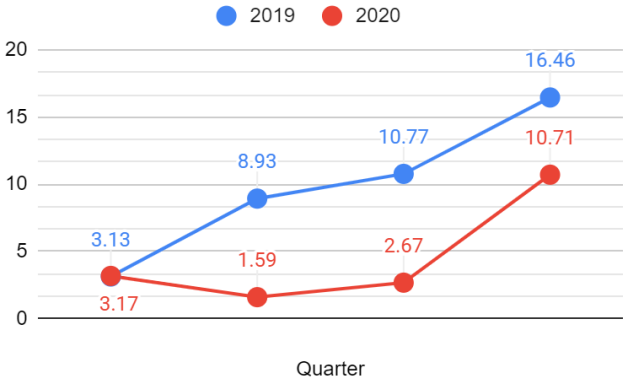

Figure 4. Return on Equity Before and During COVID-19

Gross Margin Percentage

Based on Table 2, it was found that the return on invested capital of PT Japfa Comfeed Indonesia before and during COVID-19 had an average of 17.89 with a standard deviation of 1.18 and an average of 17.67 with a standard deviation of 1.69, respectively. Researchers conducted a normality test on these variables using the Shapiro-Wilk test, obtained p-value = 0.93 and 0.20 (p> 0.05), which means the data were normally distributed. While based on Figure 5, it was seen that the value of gross margin percentage did not change drastically from 2019 to 2020. In Quarters 1 and 4, we could see that 2020 had higher values, while in Quarters 2 and 3, we could see that 2019 had higher values.

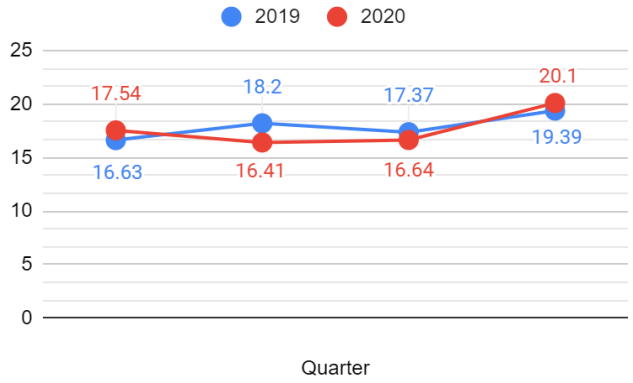

Figure 5. Gross Margin Percentage Before and During COVID-19

Profit Margin

According to Table 2, PT Japfa Comfeed Indonesia's profit margin before and during COVID-19 was 4.57 with a standard deviation of 0.65 and 2.40 with a standard deviation of 1.48, respectively. The Shapiro-Wilk test was used to determine the normality of these variables, yielding p-values of 0.25 and 0.23 (p> 0.05), which means the data were normally distributed. While based on Figure 6, it was seen that the values of return on invested capital were lower in 2020 from 2019, except in Quarter 1. It means that the COVID-19 pandemic was negatively affecting the return on invested capital of PT Japfa Comfeed Indonesia.

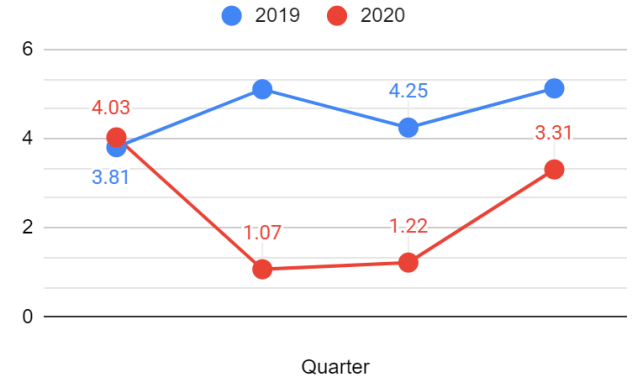

Figure 6. Profit Margin Before and During COVID-19

Significance of Differences in Profitability Ratio

All of the above variables were evaluated to see if they were normally distributed. The researchers utilized the Paired Sample T-Test to see if the variables differed significantly before and after COVID-19. Table 3 and Table 4 show the results of the Paired Sample T-Test conducted before and during COVID-19.

Table 3. Paired Samples Correlations

	N	Correlation	Sig.
ROA Before COVID & ROA During COVID	4	0.797	0.203
ROIC Before COVID & ROIC During COVID	4	0.739	0.261
ROE Before COVID & ROE During COVID	4	0.742	0.258
GMP Before COVID & GMP During COVID	4	0.659	0.341
PM Before COVID & PM During COVID	4	-0.366	0.634

Table 4. Paired Samples Correlations

	Mean	t	Sig. (2-tailed)	Decision
ROA Before COVID & ROA During COVID	2.305	2.999	0.058	p> 0.05, fail to reject the null hypothesis
ROIC Before COVID & ROIC During COVID	3.6075	3.074	0.054	p> 0.05, fail to reject the null hypothesis
ROE Before COVID & ROE During COVID	5.2875	2.87	0.064	p> 0.05, fail to reject the null hypothesis
GMP Before COVID & GMP During COVID	0.225	0.353	0.747	p> 0.05, fail to reject the null hypothesis
PM Before COVID & PM During COVID	2.1675	2.366	0.099	p> 0.05, fail to reject the null hypothesis

The correlation between each of the profitability ratios before and throughout COVID-19 is shown in Table 3. The return on assets variables was substantially and positively associated, with a correlation coefficient of 0.797. Table 4 illustrates the significance of difference, with a p-value of 0.058 (p >0.05) indicating that the correlation between the return on assets before and after COVID-19 was marginally significant. On average, the return on assets before COVID-19 was 2.30 points higher than during COVID-19 (95% CI).

For the return on invested capital, it was shown that the data were highly and positively correlated, which was 0.739. Table 4 shows the significance of the difference where the p-value = 0.054 (p >0.05) indicated that the correlation was slightly not significant between the return on invested capital before and during COVID-19. On average, the return on invested capital before COVID-19 was 3.60 points higher than during COVID-19 (95% CI).

The statistics for the return on equity were found to be substantially and positively connected, with a correlation coefficient of 0.742. Table 4 illustrates the significance of difference, with a p-value of 0.064 (p >0.05) indicating that the correlation between the return on equity before and during COVID-19 was marginally non-significant. The average mean of return on equity before COVID-19 was 5.28 points, which was higher than during COVID-19 (95% CI).

The data for the gross margin percentage was substantially and positively correlated, with a correlation coefficient of 0.659. Table 4 illustrates the significance of the difference, with a p-value of 0.747 (p >0.05) indicating that the association between the gross margin percentage before and during COVID-19 was very not significant. The average mean of gross margin percentage before COVID-19 was only 0.22 points higher than during COVID-19 (95% CI).

Finally, the data for the profit margin was found to be negatively associated, with a correlation coefficient of 0.634. Table 4 illustrates the significance of the difference, with a p-value of 0.099 (p >0.05) indicating that the association between profit margin before and after COVID-19 was not significant. Before COVID-19, the average return on invested capital was 2.16 points higher than during COVID-19 (95% CI).

LIMITATION

The breadth of study is the research's restriction. Return on assets, return on invested capital, return on equity, gross margin percentage, and profit margin were the only profitability ratios examined in the study. It would be preferable if the next study looked at more ratios, such as liquidity, solvency, and activity ratios. Another constraint is the number of data points that were examined. Because this study was completed only four quarters after COVID-19 began, the researchers only included four quarters beforeCOVID-19 and four quarters during COVID-19 in their analysis. It would be preferable if the next study could incorporate more quarters as research data.

CONCLUSION

The goal of this study is to analyze the differences in PT. Japfa Comfeed Indonesia, Tbk's financial performance before and during the COVID-19 pandemic using profitability ratio analysis.

In comparison to before the COVID-19, the return on assets, return on invested capital, return on equity, and profit margin all decreased during the COVID-19. However, according to the results of the Paired T-test, there is no significant difference in the profitability of PT Japfa Comfeed Indonesia, as evaluated by its return on assets and return on invested capital.
Furthermore, even after the pandemic, the company is still in good and healthy shape in terms of profit generation, as the results reveal that there is no substantial variation in overall profitability performance, implying that the corporation has the potential to keep the business running in the future.

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